

# ***FINANCIAL ANALYSIS***

*AHMAD Al-KHATEEB*



بيكسلز

# **CHAPTER 1**

## **A FRAMEWORK FOR BUSINESS ANALYSIS AND VALUATION USING FINANCIAL STATEMENT'S**

### Part 1 Framework

#### Analysis Step 1: Business Strategy Analysis

The purpose of business strategy analysis is to identify key profit drivers and business risks, and to assess the company's profit potential at a qualitative level. Business strategy analysis involves analyzing a firm's industry and its strategy to create a sustainable competitive advantage. This qualitative analysis is an essential first step because it enables the analyst to frame the subsequent accounting and financial analysis better. For example, identifying the key success factors and key business risks allows the identification of key accounting policies. Assessment of a firm's competitive strategy facilitates evaluating whether current profitability is sustainable. Finally, business analysis enables the analyst to make sound assumptions in forecasting a firm's future performance.

#### Analysis Step 2: Accounting Analysis

The purpose of accounting analysis is to evaluate the degree to which a firm's accounting captures the underlying business reality. By identifying places where there is accounting flexibility, and by evaluating the appropriateness of the firm's accounting policies and estimates, analysts can assess the degree of distortion in a firm's accounting numbers. Another important step in accounting analysis is to "undo" any accounting distortions by recasting a firm's accounting numbers to create unbiased accounting data. Sound accounting analysis improves the reliability of conclusions from financial analysis, the next step in financial statement analysis.

#### Analysis Step 3: Financial Analysis

The goal of financial analysis is to use financial data to evaluate the current and past performance of a firm and to assess its sustainability. There are two important skills related to financial analysis. First, the analysis should be systematic and efficient. Second, the analysis should allow the analyst to use financial data to explore business issues. Ratio analysis and cash flow analysis are the two most commonly used financial tools. Ratio analysis focuses on evaluating a firm's product market performance and financial policies; cash flow analysis focuses on a firm's liquidity and financial flexibility.

#### Analysis Step 4: Prospective Analysis

Prospective analysis, which focuses on forecasting a firm's future, is the final step in business analysis. Two commonly used techniques in prospective analysis are financial statement forecasting and valuation. Both these tools allow the synthesis of the insights from business analysis, accounting analysis, and financial analysis in order to make predictions about a firm's future.

**CAPTER 1**  
**INTRODUCTION TO FINANCIAL REPORTING**  
**BUSINESS STRATEGE ANALYSIS**

**Traditional Assumptions of the Accounting Model :**

**Business Entity** :the business or entity for which the financial statements are prepared is separate and distinct from the owners of the entity. In other words, the entity is viewed as an economic unit that stands on its own.

**Going Concern or Continuity** : The going-concern assumption, that the entity in question will remain in business for an indefinite period.

If the going-concern assumption has not been used for a particular set of financial statements, because of the threat of liquidation or bankruptcy, the financial statements must clearly disclose that the statements were prepared with the view that the entity will be liquidated or that it is a failing concern. In this case, conventional financial report analysis would not apply.

The going-concern assumption also influences liabilities. If the entity were liquidating, some liabilities would have to be stated at amounts in excess of those stated on the conventional statement. Also, the amounts provided for warranties and guarantees would not be realistic if the entity were liquidating.

The going-concern assumption also influences the classification of assets and liabilities. Without the going-concern assumption, all assets and liabilities would be current.

**TIME PERIOD :** Some businesses select an accounting period, known as a natural business year, that ends when operations are at a low ebb in order to facilitate a better measurement of income and financial position. In many instances, the natural business year of a company ends on December 31.

Some select a 12-month accounting period, known as a fiscal year, which closes at the end of a month other than December. The accounting period may be shorter than a year, such as a month. The shorter the period of time, the more inaccuracies we typically expect in the reporting.

**Monetary Unit :** Monetary Unit Accountants need some standard of measure to bring financial transactions together in a meaningful way.

that money is the best for the purpose of measuring financial transactions.

**Historical Cost :** SFAC No. 5 identified five different measurement attributes currently used in practice: historical cost, current cost, current market value, net realizable value, and present value.

Often, historical cost is used in practice because it is objective and determinable.

**Conservatism :** According to the concept of conservatism, the accountant must select the measurement with the least favorable effect on net income and financial position in the current period.

**Realization :** Accountants face a problem of when to recognize revenue.

so as to make financial statements meaningful and comparable.

**1)Point of Sale :**There are times when use of the point-of-sale approach does not give a fair result.

. Many other acceptable methods of recognizing revenue should be considered, such as the following:

1. End of production : The recognition of revenue at the completion of the production process is acceptable when the price of the item is known and there is a ready market
2. Receipt of cash
3. During production
4. Cost recovery

**2) Receipt of Cash :** The receipt of cash is another basis for revenue recognition. This method should be used when collection is not capable of reasonable estimation at the time of sale.

**3) During Production :** Some long-term construction projects recognize revenue as the construction progresses.

**4) Cost recovery :** The cost recovery approach is acceptable for highly speculative transactions.

**Matching :** Matching The revenue realization concept involves when to recognize revenue. Accountants need a related concept that addresses when to recognize the costs associated with the recognized revenue: the matching concept. The basic intent is to determine the revenue first and then match the appropriate costs against this revenue.

**Consistency :** The consistency concept requires the entity to give the same treatment to comparable transactions from period to period. The entity must be ready to defend the change.

**Full Disclosure :** The accounting reports must disclose all facts that may influence the judgment of an informed reader.

Often, the additional disclosures must be made by a note in order to explain the situation properly.

The financial statements are expected to summarize significant financial information. If all the financial information is presented in detail, it could be misleading.

**Materiality :** The accountant must consider many concepts and principles when determining how to handle a particular item. The proper use of the various concepts and principles may be costly and time-consuming. The materiality concept involves the relative size and importance of an item to a firm.

It is essential that material items be properly handled on the financial statements. Immaterial items are not subject to the concepts and principles that bind the accountant.

**Industry Practices :** Some industry practices lead to accounting reports that do not conform to the general theory that underlies accounting. Some of these practices are the result of government regulation.

**Transaction Approach :** The accountant records only events that affect the financial position of the entity and, at the same time, can be reasonably determined in monetary terms.

**Cash Basis :** The cash basis recognizes revenue when cash is received and recognizes expenses when cash is paid.

**Accrual Basis :** The accrual basis of accounting recognizes revenue when realized (realization concept) and expenses when incurred (matching concept).

P 1-2 Certain underlying considerations have had an important impact on the development of generally accepted accounting principles. Following is a list of these underlying considerations, as well as a list of statements describing them.

- |                                |                       |
|--------------------------------|-----------------------|
| a. Going concern or continuity | i. Industry practices |
| b. Monetary unit               | j. Verifiability      |
| c. Conservatism                | k. Consistency        |
| d. Matching                    | l. Realization        |
| e. Full disclosure             | m. Historical cost    |
| f. Materiality                 | n. Time period        |
| g. Transaction approach        | o. Business entity    |
| h. Accrual basis               |                       |

-----1. The business for which the financial statements are prepared is separate and distinct from the owners.

-----2. The assumption is made that the entity will remain in business for an indefinite period of time.

-----3. Accountants need some standard of measure to bring financial transactions together in a meaningful way.

- 4. Revenue should be recognized when the earning process is virtually complete and the exchange value can be objectively determined.
- 5. This concept deals with when to recognize the costs that are associated with the recognized revenue.
- 6. Accounting reports must disclose all facts that may influence the judgment of an informed reader.
- 7. This concept involves the relative size and importance of an item to a firm.
- 8. The accountant is required to adhere as closely as possible to verifiable data.
- 9. Some companies use accounting reports that do not conform to the general theory that underlies accounting.
- 10. The accountant records only events that affect the financial position of the entity and, at the same time, can be reasonably determined in monetary terms.
- 11. Revenue must be recognized when it is realized (realization concept), and expenses are recognized when incurred (matching concept).
- 12. The entity must give the same treatment to comparable transactions from period to period.
- 13. The measurement with the least favorable effect on net income and financial position in the current period must be selected..
- 14. Of the various values that could be used, this value has been selected because it is objective and determinable.
- 15. With this assumption, inaccuracies of accounting for the entity short of its complete life span are accepted.

Required Place the appropriate letter identifying each quality on the line in front of the statement describing the quality.

#### SOLUTION PROBLEM 1-2

- |       |        |
|-------|--------|
| 1 – O | 9 - I  |
| 2 - A | 10 - G |
| 3 - B | 11 - H |
| 4 – L | 12 - K |
| 5 – D | 13- C  |
| 6 – E | 14- M  |
| 7 – F | 15 – N |
| 8 - J |        |

## PROBLEMS

### 1. Required:

Listed below are several accounting principles and assumptions. Match the letter of each with the appropriate statement.

- |                    |                    |                       |
|--------------------|--------------------|-----------------------|
| a. Business entity | e. Historical cost | i. Full disclosure    |
| b. Going concern   | f. Conservatism    | j. Verifiability      |
| c. Time period     | g. Realization     | k. Materiality        |
| d. Monetary unit   | h. Consistency     | l. Industry practices |

1. Some industry practices lead to accounting reports that do not conform to the general theory that underlies accounting.
2. Requires the accountant to adhere as closely as possible to verifiable data.
3. Requires the entity to give the same treatment to comparable transactions.
4. Directs that the measurement that has the least favorable effect on net income and financial position in the current period be selected.
5. The decision is made to accept some inaccuracy because of incomplete information about the future in exchange for more timely reporting.
6. Involves the relative size and importance of an item to a firm.
7. A reasonable summarization of financial information is required.
8. Deals with the problem of when to recognize revenue.
9. The primary value that is used for financial statements.
10. Standard of measure for financial statements.
11. The assumption that the entity being accounted for will remain in business for an indefinite period of time.
12. Assumption that a business's financial statements are separate and distinct from the personal transactions of the owners.

ANS:

1. l
2. j
3. h
4. f
5. c
6. k
7. i
8. g
9. e
10. d
11. b
12. a

2. Required:

State the accounting principle or assumption that is most applicable:

- a. The company uses the same accounting principle from period to period.
- b. Financial statements are prepared periodically.
- c. Subscriptions paid in advance are recorded as unearned subscription income.
- d. All significant financial transactions are reported.
- e. Personal transactions of the stockholders are not recorded on the company's financial statements.
- f. Land is recorded at \$10,000, which was the amount paid. Current value of the land is \$25,000.
- g. The accountants determine that the company is in danger of going bankrupt and therefore refuse to certify the statements as prepared according to generally accepted accounting principles.
- h. The company loses a major customer and does not record a loss.

ANS:

- a. consistency
- b. time period
- c. realization
- d. full disclosure
- e. business entity
- f. historical cost
- g. going concern
- h. transaction approach

MULTIPLE CHOICE

1. Charging off equipment that cost less than \$20 would be an example of the application of:
  - a. going concern
  - b. cost
  - c. matching
  - d. materiality
  - e. realization

ANS: D

2. The going concern assumption:
  - a. is applicable to all financial statements
  - b. primarily involves periodic income measurement
  - c. allows for the statements to be prepared under generally accepted accounting principles
  - d. requires that accounting procedures be the same from period to period
  - e. none of the answers are correct

ANS: C

3. Understating assets and revenues is justified based on:
  - a. realization assumption
  - b. matching
  - c. consistency
  - d. realization
  - e. none of the answers are correct

ANS: E

4. The assumption that enables us to prepare periodic statements between the time that a business commences operations and the time it goes out of business is:
  - a. time period
  - b. business entity
  - c. historical cost
  - d. transaction
  - e. none of the answers are correct

ANS: A

5. Valuing assets at their liquidation values is not consistent with:
  - a. conservatism
  - b. materiality
  - c. going concern
  - d. time period
  - e. none of the answers are correct

ANS: C

6. The business being separate and distinct from the owners is an integral part of the:

- a. time period assumption
- b. going concern assumption
- c. business entity assumption
- d. realization assumption
- e. none of the answers are correct

ANS: C

7. The principle that assumes the reader of the financial statements is not interested in the liquidation values is:

- a. conservatism
- b. matching
- c. time period
- d. realization
- e. none of the answers are correct

ANS: E

8. An accounting period that ends when operations are at a low ebb is:

- a. a calendar year
- b. a fiscal year
- c. the natural business year
- d. an operating year
- e. none of the answers are correct

ANS: C

9. The accounting principle that assumes that inflation will not take place or will be immaterial is:

- a. monetary unit
- b. historical cost
- c. realization
- d. going concern
- e. none of the answers are correct

ANS: A

10. Valuing inventory at the lower of cost or market is an application of the:

- a. time period assumption
- b. realization principle
- c. going concern principle
- d. conservatism principle
- e. none of the answers are correct

ANS: D

11. The realization principle leads accountants to usually recognize revenue at:

- a. the end of production
- b. during production
- c. the receipt of cash
- d. the point of sale
- e. none of the answers are correct

ANS: D

## CHAPTER 2

# INTRODUCTION TO FINANCIAL STATEMENTS AND OTHER FINANCIAL REPORTING TOPICS

### Forms of Business Entities



A business entity may be a sole proprietorship, a partnership, or a corporation. A sole proprietorship, a business owned by one person, is not a legal entity separate from its owner, but the accountant treats the business as a separate accounting entity. The profit or loss of the proprietorship goes on the income tax return of the owner. The owner is responsible for the debts of the sole proprietorship.

A partnership is a business owned by two or more individuals. Each owner, called a partner, is personally responsible for the debts of the partnership. The accountant treats the partners and the business as separate accounting entities. The profit or loss of the partnership goes on the individual income tax return of the partners.

Ownership is evidenced by shares of stock. A corporation is considered to be separate and distinct from the stockholders. The stockholders risk only their investment; they are not responsible for the debts of the corporation.

Accounting for corporations, sole proprietorships, and partnerships is the same, except for the owners' equity section of the balance sheet. The owners' equity section for a sole proprietorship consists of the

owners' capital account, whereas the owners' equity section for a partnership has a capital account for each partner. The more complicated owners' equity section for a corporation will be described in detail in this book.

### **Forms of Business Entities**

|                                             | <b><i>Sole<br/>Proprietorship</i></b>                                                | <b><i>Partnership</i></b>       | <b><i>Corporation</i></b>                                                                            |
|---------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Number of owners</b>                     | <b>1</b>                                                                             | <b>2 or more<br/>(partners)</b> | <b>Numerous<br/>(shareholders)</b>                                                                   |
| <b>Legally separate from<br/>owners</b>     | <b>No</b>                                                                            | <b>No</b>                       | <b>Yes</b>                                                                                           |
| <b>Owners liable for<br/>business debts</b> | <b>Yes</b>                                                                           | <b>Yes</b>                      | <b>No</b>                                                                                            |
| <b>Profits taxable</b>                      | <b>To the owner</b>                                                                  | <b>To the<br/>owners</b>        | <b>To the<br/>corporation as<br/>earnings;<br/>to the owners<br/>when dividends<br/>are received</b> |
| <b>Modified form</b>                        | <b>"LLC"<br/>limits liability of owner; may<br/>increase income tax<br/>exposure</b> |                                 | <b>"Subchapter S"<br/>profits are<br/>taxed at<br/>ownership level<br/>only</b>                      |

## **The Financial Statements**

The principal financial statements of a corporation are the balance sheet, income statement, and statement of cash flows. Notes accompany these financial statements. To evaluate the financial condition, the profitability, and cash flows of an entity, the user needs to understand the statements and related notes.

The most basic statement is the balance sheet; the other statements explain the changes between two balance sheet dates.

### **Balance Sheet (Statement of Financial Position)**

A balance sheet shows the financial condition of an accounting entity as of a particular date. The balance sheet consists of three major sections: assets, the resources of the firm; liabilities, the debts of the firm; and stockholders' equity, the owners' interest in the firm.

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

### **Statement of Stockholders' Equity (Reconciliation of Stockholders' Equity Accounts)**

Firms are required to present reconciliations of the beginning and ending balances of their stockholders' equity accounts. This is accomplished by presenting a "statement of stockholders' equity." Retained earnings is one of the accounts in stockholders' equity.

Retained earnings links the balance sheet to the income statement. Retained earnings is increased by net income and decreased by net losses and dividends paid to stockholders.

## **Income Statement (Statement of Earnings)**

The income statement summarizes revenues and expenses and gains and losses, ending with net income.

## **Statement of Cash Flows (Statement of Inflows and Outflows of Cash)**

The statement of cash flows details the inflows and outflows of cash during a specified period of time—the same period that is used for the income statement. The statement of cash flows consists of three sections: cash flows from operating activities, cash flows from investing activities, and cash flows from financing activities.

### **NOTES**

The notes to the financial statements are used to present additional information about items included in the financial statements and to present additional financial information.

Certain information must be presented in notes.

Accounting policies include such items as the method of inventory valuation and depreciation policies.

Contingent liabilities are dependent on the occurrence or nonoccurrence of one or more future events to confirm the liability.

## Chapter 3

### Balance sheet

#### Assets

##### Current assets

Cash

+ Marketable securities

+ accounts receivable

+ supplies

+ prepaid expenses

= Total current assets

##### Fixed assets (property plant and equipment)

Land

+ equipment

+ machines

+ building

- accumulated depreciation land
- accumulated depreciation equipment
- accumulated depreciation machines
- accumulated depreciation building

= total fixed assets

##### long term investment

bond

+ shares

+ project under construction  
= total long term investment

### **Intangible assets**

good will  
+ trade mark  
+ copy right  
+ patents  
= total intangible assets  
+ other asstes  
**= total asstes**

### **Liabilities**

#### **Current liabilities**

account payable  
+ accruals  
+ unearned revenue  
+ note payable  
= total current liabilities

### **Non current liabilities**

long term debt

+ notes payable (1-10 year's)

+ bond payable (10-40 year's)

= total Non current liabilities

= **total liabilities**

### **Equity**

common share ( par value \* number of share )

+ preferred share ( par value \* number of share )

+ paid in capital ( selling price – par value ) \* number of share

+ retained earnings

- treasury share

= **total equity**

**= total liabilities and equity**

### **retained earnings**

retained earnings beginning balance 1/1

+ net income

- total dividends

= retained earnings ending balance 31/12

مهم

15. If liabilities total \$70,000 and stockholders' equity totals \$50,000, then total assets must be:

a. \$20,000  
b. \$80,000  
c. \$120,000  
d. \$30,000  
e. \$30,000

$$\begin{aligned}\text{Assets} &= \text{Liab} + \text{Equity} \\ &= 70,000 + 50,000 \\ &= 120,000\end{aligned}$$

ANS: C

16. Tiffin Company had retained earnings of \$50,000 at the end of last year. For the current year, income was \$20,000 and dividends \$15,000. What is the balance in retained earnings at the end of the current year?

a. \$85,000  
b. \$45,000  
c. \$55,000  
d. \$60,000  
e. none of the answers are correct

$$\begin{aligned}\text{R-E beg} &= 50,000 \\ \text{Net Income} &= 20,000 \\ \text{Dividend} &= 15,000\end{aligned}$$

$$\begin{aligned}\text{R-E ending} &= 50,000 + 20,000 - 15,000 \\ &= 55,000\end{aligned}$$

ANS: C

17. Smith Company had retained earnings of \$60,000 at the end of the current year. For the current year, income was \$30,000 and dividends \$10,000. What was the balance in retained earnings at the end of the prior year?

a. \$30,000  
b. \$40,000  
c. \$60,000  
d. \$30,000  
e. \$70,000

ANS: B

18. Which of the following is not a true statement relating to the Treadway Commission?

a. The Treadway Commission is the popular name for the National Commission on Fraudulent Reporting.  
b. The Treadway Commission has released reports detailing internal control systems.  
c. Management's Report on Internal Control over Financial Reporting and the independent public accounting firm report to the shareholders and board of directors often refer to criteria established on internal control by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).  
d. The Treadway Commission has issued a number of recommendations for the prevention of fraud on financial reports, ethics, and effective internal controls.  
e. The Treadway Commission is a voluntary private-sector organization formed to support the Sarbanes-Oxley Act.

ANS: E

## 2. Required:

Using the letters provided, classify items (1–13) according to the most commonly preferred balance sheet presentation.

**Assets**  
a. Current Assets  
b. Tangible Assets  
c. Investments  
d. Intangibles  
e. Other

**Liabilities and Stockholders' Equity**  
f. Current Liability  
g. Long-Term Liability  
h. Capital Stock  
i. Retained Earnings  
j. Items Not Included on Balance Sheet

1. Land
2. Marketable Securities
3. Goodwill
4. Inventories
5. Premium on Preferred Stock
6. Appropriation for Expansion
7. Depreciation Expense
8. Investment in K Company Bonds (long-term investment)
9. Accounts Payable
10. Bonds Payable
11. Equipment
12. Copyright
13. Unamortized Premium on Bonds Payable

ANS:

1. b
2. a
3. d
4. a
5. h
6. i
7. j
8. c
9. f
10. g
11. b
12. d
13. g

## 4 ways to calculate depreciation

### 1)the straight-line method

مهم

$$\text{annual depreciation} = \frac{\text{cost} - \text{salvage value}}{\text{useful life in years}}$$

### 2)the units-of-production method

$$\text{annual depreciation} = \frac{\text{cost} - \text{residual value}}{\text{useful life in unit's}} \times \text{actual units}$$

### 3)the sum-of-the-years-digits method

$$\text{annual depreciation} = \frac{\text{Remaining Number of Years of Life}}{\text{Sum of the Digits Representing the Years of Life}} \times (\text{Cost} - \text{Salvage value})$$

### 4)the double declining-balance method

$$\text{annual depreciation} = \frac{1}{\text{Estimated Life of Asset}} \times 2 \times (\text{cost} - \text{accumulated depreciation})$$

An item of equipment acquired on January 1, at a cost of \$10,000, has an estimated use of 16,000 hours. During the first three years, the equipment has an estimated life of five years and an estimated salvage of \$2,000.

**Required:** Determine the depreciation for each of the first years, using the straight-line method, the double declining-balance method, the sum-of-the-years'-digits method.

1) the straight-line method =

$$\text{annual depreciation} = \frac{\text{cost} - \text{salvage value}}{\text{useful life in years}} = \frac{\$10,000 - \$2,000}{5 \text{ years}} = \$1,600$$

2) the double declining-balance method =

$$\text{annual depreciation} = \frac{1}{\text{Estimated Life of Asset}} \times 2 \times (\text{cost} - \text{accumulated depreciation})$$

$$\frac{1}{5} \times 2 \times (\$10,000 - 0) = \$4,000$$

3) the sum-of-the-years'-digits method =

$$\text{annual depreciation} = \frac{\text{Remaining Number of Years of Life}}{\text{Sum of the Digits Representing the Years of Life}} \times (\text{Cost} - \text{Salvage value})$$

$$\frac{5}{(5 + 4 + 3 + 2 + 1) \text{ or } 15} \times (\$10,000 - \$2,000) = \$2,666.67$$

An item of equipment acquired on January 1, at a cost of \$150,000, has an estimated use of 50,000 hours. During the first three years, the equipment was used 10,000, 8,000, and 7,000 hours, respectively. The equipment has an estimated life of five years and an estimated salvage of \$10,000.

**Required:** Determine the depreciation for each of the three years, using the straight-line method, the double declining-balance method, the sum-of-the-years'-digits method, and the units-of-production method.

1) the straight-line method =

$$\text{annual depreciation} = \frac{\text{cost} - \text{salvage value}}{\text{useful life in years}} = \frac{150,000 - 10,000}{5} = 28,000$$

2) the double declining-balance method =

$$\text{annual depreciation} = \frac{1}{\text{Estimated Life of Asset}} \times 2 \times (\text{cost} - \text{accumulated depreciation})$$

$$\text{year 1} \quad \frac{1}{5} \times 2 \times (150,000 - 0) = 60,000$$

$$\text{year 2} \quad \frac{1}{5} \times 2 \times (150,000 - 60,000) = 36,000$$

$$\text{year 3} \quad \frac{1}{5} \times 2 \times (150,000 - 60,000 - 36,000) = 21,600$$

3) the sum-of-the-years'-digits method =

$$\text{annual depreciation} = \frac{\text{Remaining Number of Years of Life}}{\text{Sum of the Digits Representing the Years of Life}} \times (\text{Cost} - \text{Salvage value})$$

$$\text{year 1} \quad \frac{5}{(5 + 4 + 3 + 2 + 1) \text{ or } 15} \times (150,000 - 10,000) = 46,666,666$$

$$\text{year 2} \quad \frac{4}{(5 + 4 + 3 + 2 + 1) \text{ or } 15} \times (150,000 - 10,000) = 37,333,333$$

$$\text{year 3} \quad \frac{3}{(5 + 4 + 3 + 2 + 1) \text{ or } 15} \times (150,000 - 10,000) = 28,000$$

4) the units-of-production method =

$$\text{annual depreciation} = \frac{\text{cost} - \text{residual value}}{\text{useful life in unit's}} \times \text{actual units}$$

$$\text{year 1} \quad = \frac{150,000 - 10,000}{50,000} \times 10,000 = 28,000$$

$$\text{year 2} \quad = \frac{150,000 - 10,000}{50,000} \times 8,000 = 22,400$$

$$\text{year 3} \quad = \frac{150,000 - 10,000}{50,000} \times 7,000 = 19,600$$

**Chapter 4**  
**Income statement**  
**single step**

revenue

۴۴

+ sales revenue

+ rent income

= Total revenue

- expenses

- Cost of sales

- Selling and Administrative Expenses

- Loss on Sale of Plant Assets

- Interest Expense

- Income taxes

= net income

**multiple step**

sales revenue

- Cost of good sold

= gross profit

- Operating expenses

selling expenses

administrative expenses

depreciation expenses

= operating profit (EBIT)

- Income

EBT

- Taxes

= net income

$$\text{Earnings Per Share} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Weighted Average Common Shares Outstanding}}$$

## Problems

P 4-1 The following information for Decher Automotives covers the year ended 2012:

Administrative expense \$ 62,000

Dividend income 10,000

Income taxes \$ 100,000

Interest expense 20,000

Merchandise inventory, 1/1 650,000

Merchandise inventory, 12/31 440,000

Flood loss (net of tax) 30,000

Purchases 460,000

Sales 1,000,000

Selling expenses 43,000

Required

- Prepare a multiple-step income statement.
- Assuming that 100,000 shares of common stock are outstanding, calculate the earnings per share before extraordinary items and the net earnings per share.
- Prepare a single-step income statement.

ANS : PROBLEM 4 - 1

A.Sales \$1,000,000

Cost of sales Beginning inventory \$ 650,000

Purchases 460,000

Merchandise available for sale \$1,110,000

Less: Ending inventory 440,000

Cost of sales 670,000

Gross profit 330,000

Operating expense:

Selling expenses \$ 43,000

Administrative expenses 62,000 105,000

Operating income 225,000

Other income:

Dividend income 10,000

= 235,000

Other expense:

Interest expense 20,000

Income before taxes and extraordinary items 215,000

Income taxes 100,000

Income before extraordinary items 115,000

Extraordinary items: flood loss, net of tax (30,000)

Net income \$ 85,000

b. Earnings per share:

Before extraordinary items \$ 1.15

Extraordinary items (loss) (.30)

Net income \$ .85

C. Revenue:

Sales \$1,000,000

Other income 10,000

Total revenue 1,010,000

Expenses:

Cost of sales \$670,000

Operating expenses 105,000

Interest expense 20,000                      795,000

Income before taxes and extraordinary items 215,000

Income taxes 100,000

Income before extraordinary items 115,000

Extraordinary items, flood loss, net of tax 30,000

Net income \$85,000

P 4-2 The following information for Lesky Corporation covers the year ended  
December  
31, 2012:

LESKY CORPORATION

Income Statement

For the Year Ended December 31, 2012

Revenue:

Revenues from sales \$362,000

Rental income 1,000

Interest 2,400

Total revenue 365,400

Expenses:

Cost of products sold \$242,000

Selling expenses 47,000

Administrative and general expenses 11,400

Interest expense 2,200

Federal and state income taxes 20,300

Total expenses 322,900

Net income \$ 42,500

Required Change this statement to a multiple-step format, as illustrated in this chapter.

ANS : PROBLEM 4 – 2

Revenue from sales \$362,000

Cost of products sold 242,000

Gross profit 120,000 Operating expenses:

Selling expenses \$47,000

Administrative and general  
expenses 11,400 58,400

Operating income 61,600

Other items:

Other income:

Rental income \$1,000

Interest income 2,400 3,400

Other expense:

Interest expense (2,200)

Income before tax 62,800

Federal and state income taxes 20,300

Net income \$42,500

## **CHAPTER 5**

### **Basics of Analysis**

#### **Year-to-Year Change Analysis**

Comparing financial statements over two time periods using absolute amounts and percentages

can be meaningful. This approach aids in keeping absolute and percentage changes in perspective.

For example, a substantial percentage change may not be relevant because of an immaterial

absolute change. When performing year-to-year change analysis, follow these rules:

1. When an item has value in the base year and none in the next period, the decrease is 100%.
  2. A meaningful percent change cannot be computed when one number is positive and the other number is negative.
  3. No percent change is computable when there is no figure for the base year.
- These rules are illustrated in Exhibit 5-2.

| EXHIBIT 5-2         |          | Year-To-Year Change Analysis |                        |         |
|---------------------|----------|------------------------------|------------------------|---------|
| Illustrating Rules  |          |                              |                        |         |
| Item                | Year 1   | Year 2                       | Change Analysis Amount | Percent |
| Advertising expense | \$20,000 | \$ —                         | \$(20,000)             | (100%)  |
| Operating income    | 6,000    | (3,000)                      | (9,000)                | —       |
| Net income          | (7,000)  | 8,000                        | 15,000                 | —       |
| Other               | —        | 4,000                        | 4,000                  | —       |

**P 5-5**

| Item | Year 1  | Year 2  | Change Analysis |         |
|------|---------|---------|-----------------|---------|
|      |         |         | Amount          | Percent |
| 1    | —       | 3,000   |                 |         |
| 2    | 6,000   | (4,000) |                 |         |
| 3    | (7,000) | 4,000   |                 |         |
| 4    | 4,000   | —       |                 |         |
| 5    | 8,000   | 10,000  |                 |         |

**Required** Determine the absolute change and the percentage for these items.

**PROBLEM 5-5**

| Item | Year 1  | Year 2  | Change Analysis |         |
|------|---------|---------|-----------------|---------|
|      |         |         | Amount          | Percent |
| 1    | —       | 3,000   | 3,000           | —       |
| 2    | 6,000   | (4,000) | (10,000)        |         |
| 3    | (7,000) | 4,000   | 11,000          |         |
| 4    | 4,000   | —       | (4,000)         | (100%)  |
| 5    | 8,000   | 10,000  | 2,000           | 25%     |

**P 5-6**

| Item | Year 1  | Year 2  | Change Analysis |         |
|------|---------|---------|-----------------|---------|
|      |         |         | Amount          | Percent |
| 1    | 4,000   | —       |                 |         |
| 2    | 5,000   | (3,000) |                 |         |
| 3    | (9,000) | 2,000   |                 |         |
| 4    | 7,000   | —       |                 |         |
| 5    | —       | 15,000  |                 |         |

**Required** Determine the absolute change and the percentage for these items.

**PROBLEM 5-6**

| Item | Year 1  | Year 2  | Change Analysis |         |
|------|---------|---------|-----------------|---------|
|      |         |         | Amount          | Percent |
| 1    | 4,000   | —       | (4,000)         | 100     |
| 2    | 5,000   | (3,000) | (8,000)         | —       |
| 3    | (9,000) | 2,000   | 11,000          | —       |
| 4    | 7,000   | —       | (7,000)         | 100     |
| 5    | —       | 15,000  | 15,000          | —       |

## horizontal and vertical analysis

### horizontal analysis

مهم

net change = current year amount - base year amount

percentage of change = (current year amount - base year amount) / base year amount × 100%

### vertical analysis

#### Vertical Analysis Formula

**Vertical Analysis Formula (Income Statement)** =  $\frac{\text{Income Statement Item}}{\text{Total Sales}} \times 100$

**Vertical Analysis Formula (Balance Sheet)** =  $\frac{\text{Balance Sheet Item}}{\text{Total Assets (Liabilities)}} \times 100$

| EXHIBIT 5-3                                        |                      | Best Buy Co., Inc.*  |  |
|----------------------------------------------------|----------------------|----------------------|--|
| Merchandising Firm                                 |                      |                      |  |
| Consolidated Balance Sheets                        |                      |                      |  |
| \$ in millions, except per share and share amounts |                      |                      |  |
|                                                    | February 26,<br>2011 | February 27,<br>2010 |  |
| ASSETS                                             |                      |                      |  |
| Current Assets                                     |                      |                      |  |
| Cash and cash equivalents                          | \$ 1,103             | \$ 1,826             |  |
| Short-term investments                             | 22                   | 90                   |  |
| Receivables                                        | 2,348                | 2,020                |  |
| Merchandise inventories                            | 5,897                | 5,486                |  |
| Other current assets                               | 1,103                | 1,144                |  |
| Total current assets                               | 10,473               | 10,566               |  |
| Property and Equipment                             |                      |                      |  |
| Land and buildings                                 | 766                  | 757                  |  |
| Leasehold improvements                             | 2,318                | 2,154                |  |
| Fixtures and equipment                             | 4,701                | 4,447                |  |
| Property under capital lease                       | 120                  | 95                   |  |
|                                                    | 7,905                | 7,453                |  |
| Less accumulated depreciation                      | 4,082                | 3,383                |  |
| Net property and equipment                         | 3,823                | 4,070                |  |
| Goodwill                                           | 2,454                | 2,452                |  |
| Tradenames, Net                                    | 133                  | 159                  |  |
| Customer Relationships, Net                        | 203                  | 279                  |  |
| Equity and Other Investments                       | 328                  | 324                  |  |
| Other Assets                                       | 435                  | 452                  |  |
| Total Assets                                       | \$17,849             | \$18,302             |  |
| LIABILITIES AND EQUITY                             |                      |                      |  |
| Current Liabilities                                |                      |                      |  |
| Accounts payable                                   | \$ 4,894             | \$ 5,276             |  |

|                                                                                                                                                | February 26,<br>2011 | February 27,<br>2010 |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|
| Unredeemed gift card liabilities                                                                                                               | 474                  | 463                  |
| Accrued compensation and related expenses                                                                                                      | 570                  | 544                  |
| Accrued liabilities                                                                                                                            | 1,471                | 1,681                |
| Accrued income taxes                                                                                                                           | 256                  | 316                  |
| Short-term debt                                                                                                                                | 557                  | 663                  |
| Current portion of long-term debt                                                                                                              | 441                  | 35                   |
| Total current liabilities                                                                                                                      | 8,663                | 8,978                |
| Long-Term Liabilities                                                                                                                          | 1,183                | 1,256                |
| Long-Term Debt                                                                                                                                 | 711                  | 1,104                |
| Equity                                                                                                                                         |                      |                      |
| Best Buy Co., Inc. Shareholders' Equity                                                                                                        |                      |                      |
| Preferred stock, \$1.00 par value: Authorized—<br>400,000 shares; Issued and outstanding—none                                                  | —                    | —                    |
| Common stock, \$0.10 par value: Authorized—<br>1.0 billion shares; Issued and outstanding—<br>392,590,000 and 418,815,000 shares, respectively | 39                   | 42                   |
| Additional paid-in capital                                                                                                                     | 18                   | 441                  |
| Retained earnings                                                                                                                              | 6,372                | 5,797                |
| Accumulated other comprehensive income                                                                                                         | 173                  | 40                   |
| Total Best Buy Co., Inc. shareholders' equity                                                                                                  | 6,602                | 6,320                |
| Noncontrolling interests                                                                                                                       | 690                  | 644                  |
| Total equity                                                                                                                                   | 7,292                | 6,964                |
| Total Liabilities and Equity                                                                                                                   | \$17,849             | \$18,302             |

**Consolidated Statements of Earnings**  
*\$ in millions, except per share amounts*

| Fiscal Years Ended                                                       | February 26,<br>2011 | February 27,<br>2010 | February 28,<br>2009 |
|--------------------------------------------------------------------------|----------------------|----------------------|----------------------|
| Revenue                                                                  | \$50,272             | \$49,694             | \$45,015             |
| Cost of goods sold                                                       | 37,611               | 37,534               | 34,017               |
| Restructuring charges – cost of goods sold                               | 24                   | —                    | —                    |
| Gross profit                                                             | 12,637               | 12,160               | 10,998               |
| Selling, general and administrative expenses                             | 10,325               | 9,873                | 8,984                |
| Restructuring charges                                                    | 198                  | 52                   | 78                   |
| Goodwill and tradename impairment                                        | —                    | —                    | 66                   |
| Operating income                                                         | 2,114                | 2,235                | 1,870                |
| Other income (expense)                                                   |                      |                      |                      |
| Investment income and other                                              | 51                   | 54                   | 35                   |
| Investment impairment                                                    | —                    | —                    | (111)                |
| Interest expense                                                         | (87)                 | (94)                 | (94)                 |
| Earnings before income tax expense and equity in<br>income of affiliates | 2,078                | 2,195                | 1,700                |
| Income tax expense                                                       | 714                  | 802                  | 674                  |
| Equity in income of affiliates                                           | 2                    | 1                    | 7                    |
| Net earnings including noncontrolling interests                          | 1,366                | \$ 1,394             | \$ 1,033             |
| Net earnings attributable to noncontrolling interests                    | (89)                 | (77)                 | (30)                 |
| Net earnings attributable to Best Buy Co., Inc.                          | \$ 1,277             | \$ 1,317             | \$ 1,003             |
| Earnings per share attributable to Best Buy Co., Inc.                    |                      |                      |                      |
| Basic                                                                    | \$ 3.14              | \$ 3.16              | \$ 2.43              |
| Diluted                                                                  | \$ 3.08              | \$ 3.10              | \$ 2.39              |
| Weighted-average common shares outstanding (in<br>millions)              |                      |                      |                      |
| Basic                                                                    | 406.1                | 416.8                | 412.5                |
| Diluted                                                                  | 416.5                | 427.5                | 422.9                |

**P 5-1** Best Buy Co., Inc.'s consolidated balance sheets from its 2011 annual report are presented in Exhibit 5-3.

**Required**

- Using the balance sheets, prepare a vertical common-size analysis for 2011 and 2010. Use total assets as a base.
- Using the balance sheets, prepare a horizontal common-size analysis for 2011 and 2010. Use 2010 as the base.
- Comment on significant trends that appear in (a) and (b).

**PROBLEMS**

**PROBLEM 5-1**

a.

**Walgreen Co.**  
**Vertical Common-Size Balance Sheet**  
**August 31, 2001 and 2000**

|                                                                                 | (In Percentage)   |                   |
|---------------------------------------------------------------------------------|-------------------|-------------------|
|                                                                                 | August 31<br>2001 | August 31<br>2000 |
| <b>Assets</b>                                                                   |                   |                   |
| Current Assets                                                                  |                   |                   |
| Cash and cash equivalents                                                       | .2                | .2                |
| Accounts receivable, net                                                        | 9.0               | 8.7               |
| Inventories                                                                     | 39.4              | 39.6              |
| Other current assets                                                            | 1.1               | 1.2               |
| Total current assets                                                            | 49.7              | 50.0              |
| Non-Current Assets                                                              |                   |                   |
| Property and equipment, at cost, less accumulated depreciation and amortization | 49.2              | 48.3              |
| Other non-current assets                                                        | 1.1               | 1.8               |
| Total assets                                                                    | 100.0             | 100.0             |
| <b>Liabilities and Shareholders' Equity</b>                                     |                   |                   |
| Current liabilities                                                             |                   |                   |
| Short-term borrowings                                                           | 5.0               | --                |
| Trade accounts payable                                                          | 17.5              | 19.2              |
| Accrued expenses and other liabilities                                          | 10.6              | 11.9              |
| Income taxes                                                                    | 1.0               | 1.3               |
| Total Current liabilities                                                       | 34.1              | 32.4              |
| Non-Current Liabilities                                                         |                   |                   |
| Deferred income taxes                                                           | 1.6               | 1.4               |
| Other non-current liabilities                                                   | 5.4               | 6.5               |
| Total non-current liabilities                                                   | 7.0               | 7.9               |
| Shareholders' Equity                                                            |                   |                   |
| Preferred stock                                                                 | --                | --                |
| Common stock                                                                    | .9                | 1.1               |
| Paid-in capital                                                                 | 6.8               | 5.2               |
| Retained earnings                                                               | 51.2              | 52.2              |
| Total shareholders' equity                                                      | 58.9              | 59.6              |
| Total liabilities and shareholders' equity                                      | 100.0             | 100.0             |

Problem 5-1 continued

b.

**Walgreen Co.**  
**Horizontal Common-Size**  
**August 31, 2001 and 2000**

|                                                                                 | (In Percentage)   |                   |
|---------------------------------------------------------------------------------|-------------------|-------------------|
|                                                                                 | August 31<br>2001 | August 31<br>2000 |
| <b>Assets</b>                                                                   |                   |                   |
| Current Assets                                                                  |                   |                   |
| Cash and cash equivalents                                                       | 132.0             | 100.0             |
| Accounts receivable, net                                                        | 129.9             | 100.0             |
| Inventories                                                                     | 123.0             | 100.0             |
| Other current assets                                                            | 104.7             | 100.0             |
| Total current assets                                                            | 123.7             | 100.0             |
| Non-Current Assets                                                              |                   |                   |
| Property and equipment, at cost, less accumulated depreciation and amortization | 126.8             | 100.0             |
| Other non-current assets                                                        | 75.4              | 100.0             |
| Total assets                                                                    | 124.4             | 100.0             |
| <b>Liabilities and Shareholders' Equity</b>                                     |                   |                   |
| Current Liabilities                                                             |                   |                   |
| Short-term borrowings                                                           | N/A               | --                |
| Trade accounts payable                                                          | 113.4             | 100.0             |
| Accrued expenses and other liabilities                                          | 110.6             | 100.0             |
| Income taxes                                                                    | 94.1              | 100.0             |
| Total current liabilities                                                       | 130.7             | 100.0             |
| Non-Current Liabilities                                                         |                   |                   |
| Deferred income taxes                                                           | 134.8             | 100.0             |
| Other non-current liabilities                                                   | 102.9             | 100.0             |
| Total non-current liabilities                                                   | 108.7             | 100.0             |
| Shareholder's Equity                                                            |                   |                   |
| Preferred stock                                                                 | --                | --                |
| Common stock                                                                    | 100.8             | 100.0             |
| Paid-in capital                                                                 | 162.5             | 100.0             |
| Retained earnings                                                               | 119.6             | 100.0             |
| Total shareholders' equity                                                      | 123.0             | 100.0             |
| Total liabilities and shareholders' equity                                      | 124.4             | 100.0             |

## PROBLEMS

- Comparative income statements for 2008 and 2007 follow.

|                     | 2008        | 2007        |
|---------------------|-------------|-------------|
| Sales               | \$9,434,000 | \$7,862,000 |
| Cost of Sales       | 7,075,400   | 5,660,640   |
| Gross Profit        | \$2,358,600 | \$2,201,360 |
| Operating Expenses  | 1,367,690   | 1,365,060   |
| Operating Income    | \$ 990,910  | \$ 836,300  |
| Interest Expense    | 157,500     | 126,000     |
| Earnings Before Tax | \$ 833,410  | \$ 710,300  |
| Income Taxes        | 400,000     | 317,200     |
| Net Income          | \$ 433,410  | \$ 393,100  |

Required:

- Prepare a vertical common-size analysis of this statement for each year, using sales as the base.
- Comment briefly on the changes between the two years, based on the vertical common-size statement.

ANS:

a.

|                     | 2008   | 2007   |
|---------------------|--------|--------|
| Sales               | 100.0% | 100.0% |
| Cost of Sales       | 75.0   | 72.0   |
| Gross Profit        | 25.0   | 28.0   |
| Operating Expenses  | 14.5   | 17.4   |
| Operating Income    | 10.5   | 10.6   |
| Interest Expense    | 1.7    | 1.6    |
| Earnings Before Tax | 8.8    | 9.0    |
| Income Taxes        | 4.2    | 4.0    |
| Net Income          | 4.6%   | 5.0%   |

- Cost of sales as a percent of sales have risen substantially. This increase is nearly offset by a decline in operating expense. Interest expense and taxes have both risen slightly in relation to sales.

11. Suppose you are comparing two firms in the steel industry. One firm is large and the other is small. Which type of numbers would be most meaningful for statement analysis?

- a. Absolute numbers would be most meaningful for both the large and small firm.
- b. Absolute numbers would be most meaningful in the large firm; relative numbers would be most meaningful in the small firm.
- c. Relative numbers would be most meaningful for the large firm; absolute numbers would be most meaningful for the small firm.
- d. Relative numbers would be most meaningful for both the large and small firm, especially for interfirm comparisons.
- e. It is not meaningful to compare a large firm with a small firm.

ANS: D

12. Various techniques are used in the analysis of financial data to emphasize the comparative and relative importance of the data presented and to evaluate the position of the firm. Which of the following is not one of the techniques used in analysis?

- a. ratio analysis
- b. common-size analysis
- c. theory consistency ☒
- d. examination of relative size among firms
- e. review of descriptive material

ANS: C

13. Liquidity ratios can be used:

- a. to measure the degree of protection of long-term suppliers of funds
- b. to measure borrowing capacity
- c. to measure the earning ability of a firm
- d. to measure the firm's ability to meet its current obligations
- e. to measure the worth of the firm

ANS: D

14. Which of these statements is false?

- a. A ratio can be computed from any pair of numbers.
- b. Given the large quantity of variables included in financial statements, a very long list of meaningful ratios can be derived.
- c. Comparing ratios computed from income statement and balance sheet numbers can create difficulties due to the timing of the financial statements.
- d. Financial ratios are usually expressed in percent or times.
- e. In vertical analysis, a figure from the year's statement is compared with a base selected from the prior statement.

ANS: E

15. Which of these statements is false?

- a. Many companies will not clearly fit into any one industry.
- b. A financial service uses its best judgment as to which industry the firm best fits.
- c. The analysis of an entity's financial statements can be more meaningful if the results are compared with industry averages and with results of competitors.
- d. When using industry averages, it is often necessary to use an industry that the firm best fits.
- e. A company comparison should not be made with industry averages if the company does not clearly fit into any one industry.

ANS: E

16. Which of the following does not represent a problem with financial analysis?

- a. Financial statement analysis is an art; it requires judgment decisions on the part of the analyst.
- b. Financial analysis can be used to detect apparent liquidity problems.
- c. There are as many ratios for financial analysis as there are pairs of figures.
- d. Some industry ratio formulas vary from source to source.
- e. Adequate detailed disclosure of how the industry ratios are computed is often lacking.

ANS: B

17. Which of the following is a false statement as it relates to analysis?

- a. Profitability may not be a major consideration as long as the resources for repayment can be projected.
- b. Equity capital provides creditors with a cushion against loss.
- c. There is a difference between the objectives that are sought by short-term grantors of credit and those sought by long-term grantors of credit.
- d. If merchandise with a 20% markup is sold on credit, it would take ten successful sales of the same amount to make up for one sale not collected.
- e. The financial structure of the entity is of interest to creditors.

ANS: D

18. Management is a user of financial analysis. Which of the following comments does not represent a fair statement as to the management perspective?

- a. Management is interested in the view of investors.
- b. Management is interested in the view of creditors.
- c. Management is interested in the financial structure of the entity.
- d. Management is interested in the asset structure of the entity.
- e. Management is always interested in maximum profitability.

ANS: E



**Chapter 6**  
**Liquidity of Short-Term**  
**Assets; Related Debt-Paying**  
**Ability**

**1) FIFO First in first out**

مهم

COGS من فوق لتحت

ENDING INVENTORY total cost – cogs

**2) LIFO Last in first out**

COGS من تحت لفوق

ENDING INVENTORY total cost – cogs

**3) Weight Average**

COGS =  $\frac{\text{cost available for sale}}{\text{available for sale}} \times \text{unit sold}$

ENDING INVENTORY (total unit – unit sold ) × average cost

**4) specific identification**

COGS total cost – ending inventory

ENDING INVENTORY من فوق لتحت

**P 6-17** The following data relate to inventory for the year ended December 31, 2011:

| Date       | Description         | Number of Units | Cost per Unit | Total Cost      |
|------------|---------------------|-----------------|---------------|-----------------|
| January 1  | Beginning inventory | 400             | \$5.00        | \$ 2,000        |
| March 1    | Purchase            | 1,000           | 6.00          | 6,000           |
| August 1   | Purchase            | 200             | 7.00          | 1,400           |
| November 1 | Purchase            | 200             | 7.50          | 1,500           |
|            |                     | <u>1,800</u>    |               | <u>\$10,900</u> |

A physical inventory on December 31, 2011, indicates that 400 units are on hand and that they came from the March 1 purchase.

**Required** Compute the cost of goods sold for the year ended December 31, 2011, and the ending inventory under the following cost assumptions:

- First-in, first-out (FIFO)
- Last-in, first-out (LIFO)
- Average cost (weighted average)
- Specific identification

**PROBLEM 6-17**

- a. First-In, First-Out (FIFO):

|                                                         | <u>Inventory</u> | <u>Cost of Goods Sold</u> |
|---------------------------------------------------------|------------------|---------------------------|
| August 1 Purchase 200 @ \$7.00                          | \$1,400          |                           |
| November 1 Purchase 200 @ \$7.50                        | <u>\$1,500</u>   |                           |
|                                                         | <u>\$2,900</u>   |                           |
| Remaining cost in cost of goods sold (\$10,900-\$2,900) |                  | <u>\$8,000</u>            |

- b. Last-In, First-Out (LIFO):

|                                                         | <u>Inventory</u> | <u>Cost of Goods Sold</u> |
|---------------------------------------------------------|------------------|---------------------------|
| January 1 Inventory 400 x \$5.00                        |                  | <u>\$2,000</u>            |
| Remaining cost in cost of goods sold (\$10,900-\$2,000) |                  | <u>\$8,900</u>            |

- c. Average Cost (Weighted Average):

|                                     | <u>Inventory</u> | <u>Cost of Goods Sold</u> |
|-------------------------------------|------------------|---------------------------|
| Total cost <u>\$10,900</u> = \$6.06 |                  |                           |
| Total Units 1,800                   |                  |                           |

Inventory (400 x \$6.06) = \$2,424

Remaining cost in cost of goods sold (\$10,900-\$2,424) \$8,476

- d. Specific Identification:

|                                                         | <u>Inventory</u> | <u>Cost of Goods Sold</u> |
|---------------------------------------------------------|------------------|---------------------------|
| March 1, Purchase cost \$6.00                           |                  |                           |
| Inventory 400 x \$6.00                                  | \$2,400          |                           |
| Remaining cost in cost of goods sold (\$10,900-\$2,400) |                  | <u>\$8,500</u>            |

**P 6-18** The following data relate to inventory for the year ended December 31, 2011. A physical inventory on December 31, 2011, indicates that 600 units are on hand and that they came from the July 1 purchase.

| Date        | Description         | Number of Units | Cost per Unit | Total Cost      |
|-------------|---------------------|-----------------|---------------|-----------------|
| January 1   | Beginning inventory | 1,000           | \$4.00        | \$ 4,000        |
| February 20 | Purchase            | 800             | 4.50          | 3,600           |
| April 1     | Purchase            | 900             | 4.75          | 4,275           |
| July 1      | Purchase            | 700             | 5.00          | 3,500           |
| October 22  | Purchase            | 500             | 4.90          | 2,450           |
| December 10 | Purchase            | 500             | 5.00          | 2,500           |
|             |                     | <u>4,400</u>    |               | <u>\$20,325</u> |

**Required** Compute the cost of goods sold for the year ended December 31, 2011, and the ending inventory under the following cost assumptions:

- First-in, first-out (FIFO)
- Last-in, first-out (LIFO)
- Average cost (weighted average)
- Specific identification

**PROBLEM 6-18**

- a. First-In, First-Out (FIFO):

|                      | <u>Inventory</u> | <u>Cost of Goods Sold</u> |
|----------------------|------------------|---------------------------|
| December 10 Purchase |                  |                           |
| 500 x \$5.00         | \$2,500          |                           |
| October 22 Purchase  |                  |                           |
| 100 x \$4.90         | <u>490</u>       |                           |
|                      | <u>\$2,990</u>   |                           |

Remaining cost in cost of goods sold (\$20,325-\$2,990) \$17,335

- b. Last-In, First-Out (LIFO):

|                               | <u>Inventory</u> | <u>Cost of Goods Sold</u> |
|-------------------------------|------------------|---------------------------|
| January 1 Beginning inventory |                  |                           |
| (600 x \$4.00)                | <u>\$2,400</u>   |                           |

Remaining cost in cost of goods sold (\$20,325-\$2,400) \$17,925

- c. Average Cost:

Total Cost  $\frac{\$20,325}{4,400} = \$4.619$   
 Total Units 4,400  
 Inventory (600 x \$4.62) = \$2,772  
 Cost of Goods Sold (\$20,325-\$2,772) = \$17,553

- d. Specific Identification:

Inventory (600 x \$5.00) = \$ 3,000  
 Cost of Goods Sold (\$20,325-\$3,000) = \$17,325

# Liquidity ratios

$$1. \text{ Accounts Receivable Turnover} = \frac{\text{Net Sales}}{\text{Average Gross Receivables}}$$

$$2. \text{ Accounts Receivable Turnover in days} = \frac{365}{\text{Accounts Receivable turnover}}$$

$$3. \text{ Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$4. \text{ Inventory Turnover in days} = \frac{365}{\text{Inventory Turnover}}$$

$$5. \text{ Accounts Payable Turnover} = \frac{\text{Purchases}}{\text{Average Accounts payable}}$$

$$6. \text{ Accounts Payable Turnover in days} = \frac{365}{\text{Accounts Payable Turnover}}$$

$$\text{Purchases} = \text{Cost of Goods Sold} + \text{Ending Inventory} - \text{Beginning Inventory}$$

$$7. \text{ Operating Cycle} = \text{Accounts receivable turnover in days} + \text{Inventory Turnover in days}$$

$$8. \text{ Cash Conversion Cycle (Cash Gap)} = \text{Operating Cycle} - \text{Accounts Payable Turnover in days}$$

$$9. \text{ Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

$$10. \text{ Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$11. \text{ Quick Ratio (Acid-Test Ratio)} = \frac{\text{Current Assets} - \text{Inventory} - \text{Prepaid Expenses} - \text{Other assets}}{\text{Current liabilities}}$$

$$12. \text{ Cash Ratio} = \frac{\text{Cash Equivalents} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

$$13. \text{ Sales to Working Capital} = \frac{\text{Net Sales}}{\text{Average Working Capital}}$$

P 6-23 Items (a) through (d) are based on the following information:

**SHARKEY CORPORATION**  
Selected Financial Data

|                                    | As of December 31, |           |
|------------------------------------|--------------------|-----------|
|                                    | 2011               | 2010      |
| Cash                               | \$ 8,000           | \$ 60,000 |
| Marketable securities              | 32,000             | 8,000     |
| Accounts receivable                | 40,000             | 110,000   |
| Inventory                          | 80,000             | 140,000   |
| Net property, plant, and equipment | 240,000            | 280,000   |
| Accounts payable                   | 60,000             | 100,000   |
| Short-term notes payable           | 30,000             | 50,000    |
| Cash sales                         | 1,500,000          | 1,400,000 |
| Credit sales                       | 600,000            | 900,000   |
| Cost of goods sold                 | 1,260,000          | 1,403,000 |

Required Answer the following multiple-choice questions:

- b. Sharkey's receivables turnover for 2011 is
1. 8 times.
  2. 6 times.
  3. 12 times.
  4. 14 times.
- c. Sharkey's inventory turnover for 2011 is
1. 11.45 times.
  2. 10.50 times.
  3. 9.85 times.
  4. 8.45 times.
- d. Sharkey's current ratio at December 31, 2011, is
1. 1.40.
  2. 2.60.
  3. 1.90.
  4. 1.78.
- e. If current assets exceed current liabilities, payments to creditors made on the last day of the year will
1. Decrease current ratio.
  2. Increase current ratio.
  3. Decrease working capital.
  4. Increase working capital.

- b. 1 Net Sales (use only credit sales when available)  
Average Gross Receivables (only net receivables available in this problem)

$$\frac{\text{Net Sales}}{\text{Average Gross Receivable}}$$

Note: Use only credit sales when available.

$$\frac{\$600,000}{(\$40,000 + \$110,000) / 2} = \frac{\$600,000}{\$75,000} = 8.00 \text{ times}$$

- c. 1 Cost of Goods Sold  
Average Inventory

$$\frac{\$1,260,000}{(\$80,000 + \$140,000) / 2} = \frac{\$1,260,000}{\$110,000} = 11.45 \text{ times}$$

- d. 4 Current Assets  
Current Liabilities

$$\frac{\$8,000 + \$32,000 + \$40,000 + \$80,000}{\$60,000 + \$30,000} = \frac{\$160,000}{\$90,000} = 1.78 \text{ times}$$

- e. 2 As long as the current ratio is greater than 1 to 1, any payment will increase the current ratio because the current liabilities go down more in proportion than do the current assets.



10. Anne Elizabeth Company's Balance Sheet for December 31, 2008, and Income Statement For the Year Ended December 31, 2008, are given below.

**Balance Sheet**  
Anne Elizabeth Company  
December 31, 2008

|                                                   | 2008             | 2007             |
|---------------------------------------------------|------------------|------------------|
| <b>Assets</b>                                     |                  |                  |
| <b>Current Assets:</b>                            |                  |                  |
| Cash                                              | \$ 50,450        | \$ 28,538        |
| Marketable Securities                             | 25,000           | 20,500           |
| Accounts Receivable, less allowance of \$10,000   | 60,000           | 50,000           |
| Inventory, LIFO                                   | 90,000           | 70,000           |
| Prepaid                                           | 8,000            | 7,000            |
| <b>Total Current Assets</b>                       | <b>\$233,450</b> | <b>\$176,038</b> |
| <b>Property, Plant, and Equipment:</b>            |                  |                  |
| Land                                              | 9,000            | 8,000            |
| Buildings and Equipment                           | 220,000          | 210,000          |
|                                                   | \$229,000        | \$218,000        |
| Less Accumulated Depreciation                     | (68,000)         | (60,000)         |
| <b>Total Assets</b>                               | <b>\$394,450</b> | <b>\$334,038</b> |
| <b>Liabilities and Shareholders' Equity:</b>      |                  |                  |
| <b>Current Liabilities:</b>                       |                  |                  |
| Accounts Payable                                  | \$ 35,000        | \$ 30,000        |
| Accrued Compensation                              | 8,000            | 7,000            |
| Income Taxes                                      | 7,000            | 6,000            |
| <b>Total Current Liabilities</b>                  | <b>\$ 50,000</b> | <b>\$ 43,000</b> |
| <b>Long-Term Debt</b>                             | <b>40,000</b>    | <b>11,038</b>    |
| <b>Shareholders' Equity:</b>                      |                  |                  |
| Common Shares                                     | 60,000           | 60,000           |
| Retained Earnings                                 | 244,450          | 220,000          |
|                                                   | \$304,450        | \$280,000        |
| <b>Total Liabilities and Shareholders' Equity</b> | <b>\$394,450</b> | <b>\$334,038</b> |

**Income Statement**  
Anne Elizabeth Company  
For the Year Ended December 31, 2008

|                                      | 2008             | 2007             | 2006             |
|--------------------------------------|------------------|------------------|------------------|
| Net sales                            | \$718,500        | \$650,500        | \$640,000        |
| Cost of goods sold                   | 580,000          | 520,000          | 515,000          |
| <b>Gross profit</b>                  | <b>\$138,500</b> | <b>\$130,500</b> | <b>\$125,000</b> |
| <b>Operating expenses:</b>           |                  |                  |                  |
| Selling, general, and administrative | \$ 71,000        | \$ 67,000        | \$ 65,000        |
| Interest                             | 4,000            | 3,000            | 2,500            |
|                                      | \$ 75,000        | \$ 70,000        | \$ 67,500        |
| <b>Earnings before income taxes</b>  | <b>\$ 63,500</b> | <b>\$ 60,500</b> | <b>\$ 57,500</b> |
| Income taxes                         | 30,000           | 29,000           | 28,000           |
| <b>Net earnings</b>                  | <b>\$ 33,500</b> | <b>\$ 31,500</b> | <b>\$ 29,500</b> |

Required:

Compute the following ratios for 2008:

1. Accounts receivable turnover
2. Merchandise inventory turnover
3. Working capital
4. Current ratio
5. Acid-test ratio (conservative)
6. Sales to working capital

$$1. \text{ Accounts receivable turnover} = \frac{\text{Net Sales}}{\text{Average Gross Receivables}}$$

$$\frac{\$718,500}{[(\$50,000 + \$10,000) + (\$50,000 + \$10,000)] / 2} = \frac{\$718,500}{\$65,000} = 11.05$$

$$2. \text{ Merchandise Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$\frac{\$580,000}{(\$90,000 + \$70,000) / 2} = \frac{\$580,000}{\$80,000} = 7.25$$

$$3. \text{ Working capital} = \text{Current Assets} - \text{Current Liabilities}$$

$$\$233,450 - \$50,000 = \$183,450$$

$$4. \text{ Current ratio} = \text{Current assets} / \text{Current liabilities}$$

$$\frac{\$233,450}{\$50,000} = 4.67$$

$$5. \text{ Acid-Test Ratio} = \frac{\text{Cash equivalents} + \text{Marketable Securities} + \text{Net Receivables}}{\text{Current Liabilities}}$$

$$\frac{\$50,450 + \$25,000 + \$60,000}{\$50,000} = \frac{\$135,450}{\$50,000} = 2.71$$

$$6. \text{ Sales to Working Capital} = \frac{\text{Sales}}{\text{Average Working Capital}}$$

$$\frac{\$718,500}{[(\$233,450 - \$50,000) + (\$176,038 - \$43,000)] / 2} = \frac{\$718,500}{\$158,244} = 4.54$$